

## **Learning/Teaching the Epic of Evolution**

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Some seventeen years ago while working at the National Science Foundation I was also participating in an organization called “Beyond War”. As part of a Beyond War activity we read Thomas Berry's seminal book, “Dream of the Earth.” ([amazon.com/Dream-Earth-Thomas-Berry/dp/0871566222](https://www.amazon.com/Dream-Earth-Thomas-Berry/dp/0871566222) ) What struck me most in reading that book was that I, a reasonably well-read physical chemist, did not live out of my own knowledge. That is, I knew a reasonable amount of astrophysics, enough about evolution to get along, even something about the recent history of Homo sapiens. However, that knowledge made absolutely no difference in my life. I lived my life like most others, out of a completely different set of beliefs about how the world is and how it came to be.

For example, I believed that the Earth was created for humans. I never questioned that, even if I did not accept the Genesis story literally. I also believed that human were the pinnacle of evolution. We were the best, top of the line; that was so obvious as to be unchallengeable. The problem I ran across while reading and thinking about Berry's book was that those beliefs were not supported by our modern understandings of the evolutionary history of Earth. In fact, they were clearly contradicted by that knowledge.

For example, I knew that some of my ancestors had moved out of Africa many tens of thousands of years ago. But I never thought that I had black, African ancestors. And I knew that our human ancestors diverged from other apes millions of years ago. But, again, I never envisioned having ape-like ancestors. When I realized how little of my historical/scientific knowledge I actually integrated into my life, I was both embarrassed and disturbed. Embarrassed because I felt dishonest. Disturbed because I couldn't really understand why I found it so difficult to be honest, that is, to carry out my normal life all the while understanding, believing that my great, great, . . . grandmother was a black African and her (and therefore my) great, great, great, . . . grandmother was a chimp-like ape.

I realized that my world-view, my cosmology, was inconsistent with how Earth has and therefore does actually function. And I was not some anomaly in our culture; I was normal. I also realized that it was one thing for several million or even tens of millions of people to behave as though the Earth were created for them, but it is quite another for billions to act that way. And billions of us are acting precisely that way.

I decided that I had to learn first, the evolutionary process itself; second, why it was so hard for me and others to truly accept it; and, third, and most importantly, what educational processes could be effective in moving others to a world-view and therefore behavior more consistent with how Earth actually functions.

So I launched myself onto a new path – studying and teaching the Epic of Evolution. In 1993 I left NSF and my wife and I moved to Genesis Farm ([www.genesisfarm.org](http://www.genesisfarm.org)), a retreat center founded by Miriam MacGillis, a Dominican sister of Caldwell, NJ. There people gather from all over the world to study the Epic of Evolution as well as its implications for a sustainable culture. Twenty years ago most of the students were Catholic sisters. But in the last few years that has changed significantly so that now around one third are nuns. Many attendees of the Genesis Farm programs have gone out and established their own centers, e.g., the White Violet Center for Eco-Justice at Saint Mary-of-the-Woods college, IN; Center for Earth Jurisprudence, Miami, FL; and many more. (For more info see “Green Sisters” by Sarah Mc-Farland-Taylor, [amazon.com/Green-Sisters-Sarah-McFarland-](https://www.amazon.com/Green-Sisters-Sarah-McFarland/)

[Taylor/dp/0674024400](#) )

One such retreat center inspired by Genesis Farm is the Dominican Eco-centre in Wicklow city, Co. Wicklow, Ireland. For the last 6 years I have presented my five-day seminar on the Epic as part of their spring and fall 10 week sabbatical programs. Most of the attendees have been nuns, a large percentage of whom have served and do serve outside of Ireland in a variety of countries.

Two years ago the Rome leadership team of the Christian Brothers attended my week at Wicklow. From them I learned that the Christian Brothers as a whole are in the process of formally integrating the Epic into their Christian spirituality.

([edmundrice.net/images/stories/pdf/Seven Elements Emerging Spirituality PP.pdf](#) )

Very early on the Epic was administratively embedded at Miami-Dade College (MDC) as the Earth Ethics Institute. What I find amazing is that MDC is, I believe, the largest college in the U.S. with a student population of somewhere around 160,000. Well over 100 of MDC faculty have gone through the “Green Studies” program based on the Epic and administered by the Earth Ethics Institute. As part of this program I have presented several one-week courses on the Epic.

Finally, for the last ten years I have facilitated an online program covering various aspects of the Epic and its implications. ([www.EarthLiteracyAtHome.org](#))

Of course, we all know that teaching a subject is a very quick way to learn it. So when I started teaching the evolutionary history of the Universe and Earth, I was on a very steep learning curve. There was a lot to learn! However, the more difficult aspect was giving up my very entrenched self-demand that I have detailed knowledge of what I teach. While that is standard procedure for teaching science, it was simply not possible for me to learn and teach the Epic with the same level of knowledge and therefore confidence as I taught, say, physical or quantum chemistry. I had to make a very difficult decision to stand up in front of an intelligent audience and teach, knowing full well that some of what I said or implied was outdated and/or simply wrong. I want to emphasize that this was very difficult for me. It still is. I have learned a great deal of humility in this process.

An additional difficulty was that my students, by and large, have had little background in science, and those that did often came with, at best, a neutral attitude towards the subject.

Nevertheless I established two goals in my teaching: the historical facts & theories of the evolutionary process and how those facts relate to our concept of who we are. For example, somewhere during my presentation of biological evolution I would tell the story that was told to me by a professor of genetics at the U. of Washington during an Epic of Evolution seminar. After teaching for a couple of decades he was walking through the a forest in north-western Washington and suddenly realized that the tree he was observing shared some 50% of its genes with him. He was thunderstruck by this realization. So was I when he told his story.

So after telling this story to my students, that is, having told my students the facts – we share a substantial portion of our genes with trees (and many other creatures) and the role of genes in determining the nature of the organism – I then ask the audience the following questions. “Does this mean that the tree is half-human.” “Does this mean I am half-tree?” “Does this mean that trees are entitled to half the rights guaranteed us humans?” “Well, what does this mean?”

Normally there follows a quiet in the room as the students ponder this. Of course, a discussion would

follow. I believe I almost always accomplish my two goals with this story. The students will never forget that we humans share a significant part of our genome with other organisms. This alone is a profound learning for most people as it moves their sense of connection with the community of life from a mental concept to a physical one. Second, this brings up the important idea of the degree of relatedness to other creatures – the more genes we share with other creatures, the closer we are related to them both historically and functionally. Again, this is an important and, I believe, a necessary learning so that we may eventually develop a heightened level of compassion for the present plight of the natural world.

Finally, there is that powerful, deep, and very incorrect assumption that Earth was created for us. Early on I would point out that many indigenous peoples believed otherwise. That was fine, but not very effective. Some years ago I changed to a different story. I had given a talk on the Epic of Evolution in a pub near Rosspport, Co. Mayo, Ireland. I mentioned that the Irish used to have a ritual to check if it was permissible to build on a site. They would pile up some stones or push a stick in the ground and then leave returning the next day to check. If the stones or stick were undisturbed, then it was OK to build. If the stones or stick were knocked down, then that meant the Shee, the beings who lived in the ground, used this site in some way, perhaps a passage-way. In any case the people would not build there. The point of the story is that the Irish used to ask permission of the non-human world to “develop” a site.

Now I didn't know how long ago that custom disappeared until a lady stood up that particular evening and told me that she could remember her father doing just that. I was quite surprised how recent that was. Only some 80 years ago the Irish, at least some Irish, still believed that Earth was not created for humans alone. The story is important since many Americans have some Irish ancestry and therefore the story strikes closer to home.

Teaching “Deep History” is very important because it can imbue students with a sense of deep and creative ancestry. I have found that when students are given the opportunity to meditate explicitly on the meaning of the narrative, then Deep History can become a powerful context for their lives.